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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,785	08/25/2006	**Yasunori Minakawa**	0760-0357PUS1	1126

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EXAMINER	
YAKOVLEVA, GALINA M	
ART UNIT	**PAPER NUMBER**
1641	

NOTIFICATION DATE	DELIVERY MODE
10/05/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/590,785	MINAKAWA ET AL.	
	Examiner	Art Unit	
	GALINA YAKOVLEVA	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/12/2007; 03/14/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

Claims 1-20, as set forth in the Preliminary Amendment dated August 25, 2006, are pending. Claims 1-20 are examined.

Priority

The instant application, 10/590,785, Publication No. US 2010/0143933, is a national stage entry of PCT/JP2005/003135, filed on 02/25/2005, which claims foreign priority to Japanese Patent Application 2004-051184, filed on 02/26/2004.

Information Disclosure Statement

The information disclosure statements, submitted on 01/12/2007 and 03/14/2008, are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Claim Rejection - 35 USC § 101

Claim 19 provides for the use of the ionic surfactant recited in Claim 1, but, since Claim 19 does not set forth any steps involved in the method/process, it is unclear what method/process Applicant is intending to encompass. Claim 19 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd. App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966). MPEP 2173.05(q).

Claim Rejection - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 3, 4, 7, 10, 12-15, 17 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation "a substituent(s) which does(do) not adversely affect the effect of the present invention" in Claim 2 is not clear. The substituents are defined at page 5, lines 13-14 of the specification as lower alkyl groups and lower alkoxyl groups. A proper amendment is required.

The steps of the claimed immunoassay of Claims 10 and 12-15 are not defined.

Claim 17, which is directed to the reagent, is improperly dependent upon Claim 14, which is directed to the immunoassay. Claim 17 appeared to be dependent upon Claim 16. A proper correction is required.

Claim 19 provides for the use of the ionic surfactant recited in Claim 1, but, since Claim 19 does not set forth any steps involved in the method/process, it is unclear what method/process Applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. For example, a claim which read: "A process for using monoclonal antibodies of claim 4 to isolate and purify human fibroblast interferon" was held to be indefinite because it merely recites a use without any active, positive steps delimiting how this use

is actually practiced. *Ex parte Erlich*, 3 USPQ2d 1011 (Bd. Pat. App. & Inter. 1986). MPEP 2173.05(q).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States;
>
> (f) he did not himself invent the subject matter sought to be patented.

Claims 1-20 are rejected under 35 U.S.C. 102(a) as being anticipated by **Wada** *et al.*, WO 2004/092733, filed on April 4, 2004; published on October 28, 2004 (IDS submitted on 03/14/2008). Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claims 1-9, as recited in independent Claim 1, are drawn to an agent for inhibiting decrease in measured values in immunoassays, caused by an interfering substance(s), which agent is an ionic surfactant having a molecular weight of 1000 to 100,000, said ionic surfactant being a polymer in which a hydrophobic cyclic monomer(s) having an ionic functional group(s) is(are) polymerized. At page 2, lines 7-11, the specification defines broadly "an agent for inhibiting decrease in measured

values in immunoassays, which *may reduce the influence by interfering substances in test samples to promote the accuracy of immunoassays.*" Emphasis added. Claim 2 requires the polymer to comprise a recurring unit represented by Formula I. Claim 3 through Claim 7 recites the structure of the cyclic monomer and/or functional groups. Claim 8 requires the recurring unit to be an anethole sulfonic acid salt or styrene sulfonic acid salt. Claim 9 requires the immunoassay to be an immunoagglutination method. Claims 10-15, as recited in independent Claim 10, are drawn to an immunoassay, which is carried out in the presence of the agent of Claim 1. Claim 11 requires the immunoassay to comprise a first step of bringing a test sample into contact with the agent for inhibiting decrease in measured values in immunoassays; and a second step of subjecting said test sample to antigen-antibody reaction with sensitized particles or with an antiserum. Claim 12 requires the test sample to be a biological sample. Claim 13 requires the test sample to be blood, serum or blood plasma. Claim 14 requires the concentration of the agent for inhibiting decrease in measured values in immunoassays in reaction solution to be 0.01% to 5% (weight/volume). Claim 15 requires the immunoassay to be an immunoagglutination method. Claims 16-18, as recited in independent Claim 16, are drawn to a reagent for immunoassays comprising at least a buffer and sensitized particles or an antiserum, characterized by further comprising the agent of Claim 1. Claim 19 is drawn to use of the ionic surfactant recited in Claim 1 as an agent for inhibiting decrease in measured values in immunoassays. Claim 20 is drawn to a method for inhibiting decrease in measured values in

immunoassays, which method comprises making the ionic surfactant recited in Claim 1 coexist in reaction solution of said immunoassay.

Wada *et al.*, throughout the publication, and, for example, at page 6, lines 6-11; page 16, lines 6-23; page 19, lines 21-33; page 21, lines 14-16, teach use of a polyanionic or polycationic charged polymer in methods and compositions for detecting or identifying an analyte of interest in a biological sample, such as serum, plasma, a whole blood, by contacting the sample containing the analyte with one or more affinity molecule to form a complex of the analyte and the one or more affinity molecule, which affinity molecule can be an antibody, wherein the charged polymer reduces the sample constituent interference with separation of, e. g., a complex of an analyte and an affinity molecule from any free (e. g., unbound) affinity molecule, particularly separation of a complex of an analyte and a conjugate of an affinity molecule and a charged carrier molecule from any free (e. g., unbound) conjugate, which makes it possible to sensitively and specifically detect or identify the analyte of interest in a sample. At page 19, lines 8-11, Wada *et al.* teach that, when the charged polymer is present in the contacting step of the sample containing the objective substance with the affinity substance for forming the complex, the concentration of the charged polymer present in the solution (e. g., buffer) may be variable depending on the kind of the charged polymer to be used. At page 19, lines 11-13, Wada *et al.* teach that, generally, the concentration of the charged polymer may be any concentration at which the presence of the charged polymer can reduce the interference without affecting any interaction between the analyte and the affinity substance. At page 19, lines 5-7, Claims 31-34,

Wada *et al*. teach the concentration of the charged polymer to be usually between about 0.01 to 5% (w/v), preferably about 0.05 to 2% (w/v), more preferably about 0.5 to 1.5 % (w/v), for example about 1% (w/v). At page 26, lines 6-9, Wada *et al*. teach that a sample containing the analyte can be contacted with an affinity molecule/charged carrier molecule conjugate to form a complex of the analyte and the conjugate, and the resulting complex can be separated from any unbound conjugate in the presence of a charged polymer. At page 27, lines 19-23, Wada *et al*. teach that the charged carrier molecules can be synthetic macromolecular compounds such as polystyrene latex, styrene-butadiene copolymer, styrene-methacrylate copolymer, acrolein-ethylene glycol dimethacrylate copolymer, styrene-styrenesulfonate latex, polyacrylamide, polyglycidyl methacrylate, polyacrolein-coated particles, etc. At page 16, lines 6-12, Claims 2 and 4, Wada *et al*. teach that the charged polymer can be, e. g., polyanethole sulfonic acid, which is covered by the instant Claim 8.

According to MPEP 2131.02, the prior art species, polyanethole sulfonate taught by Wada *et al.,* will anticipate the agent for inhibiting decrease in measured values in immunoassays of the instant Claims 1-20.

"A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. *In re Slayter*, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960).

Therefore, each and every element of the claims is met by the Wada *et al*. reference.

Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by **Moghaddam** *et al.*, U.S. Patent 5,972,718, issued on October 26, 1999.

Moghaddam *et al.*, throughout the publication, and, for example, in Claim 1, teach a method of detecting heparin-induced antibodies in blood plasma or serum to screen for heparin-induced thrombocytopenia using a linear, non-glycosaminoglycan polymer having a backbone and carrying negative charges distributed along the polymer chain, wherein the polymer is between 2-6,000 Daltons in molecular mass and wherein the polymer is selected from the group consisting of polyvinyl sulfonate, polystyrene sulfonate, polyanetholesulfonate, polyvinyl phosphate, polyvinyl phosphonate and polyvinyl sulfate. Shown at Fig. 6 and 7, Moghaddam *et al.* teach use the different amounts of polystyrene sulfonate or polyanetholesulfonate in the assays. Moghaddam *et al.* teach an immunoagglutination method by disclosing the use of latex particles in detecting ability of HITP antibodies to promote agglutination. Column 11, lines 57-62. Moghaddam *et al.* teach that diagnostic applications may be implemented in the form of a kit containing complexes which undergo a reaction with a sample of a patient's blood. Column 11, line 65 through Column 12, line 10.

According to MPEP 2131.02, the prior art species, polystyrene sulfonate or polyanethole sulfonate, taught by Moghaddam *et al.,* will anticipate the agent for inhibiting decrease in measured values in immunoassays of the instant Claims 1-20.

"A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. *In re Slayter*, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960).

As to recitation "0.01% to 5% (weight/volume)" of Claim 14, a specific example in the prior art (See Fig. 6 and 7 of the Moghaddam *et al.* reference), which is within a claimed range, anticipates the range. MPEP 2131.01.

"[W]hen, as by a recitation of ranges or otherwise, a claim covers several compositions, the claim is anticipated' if *one* of them is in the prior art." Titanium Metals Corp. v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (citing In re Petering, 301 F.2d 676, 682, 133 USPQ 275, 280 (CCPA 1962)) (emphasis in original).

Therefore, each and every element of the claims is met by the Moghaddam *et al.* reference.

Claims 1-8, 10-14, 16, and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by **Senn** *et al.,* WO 91/10747, published on July 25, 1991.

Senn *et al.,* throughout the publication, and, for example, at page 2, lines 4-6; page 12, lines 1-9 and lines 23-24, teach use of polyanionic, in particular polysulfated or polysulfonated (i.e. exhibiting -SO_3" groups) polymers, including polyanethole sulfonate, for reducing non-specific binding and increasing the specificity as well as the sensitivity of the testing for anti-HIV antibodies in neat (undiluted samples) from the biological fluids such as blood, plasma and serum. At page 12, lines 10-22, Senn *et al.* teach that, in order to have a good test, when using the polyanionic polymer, normal optimization with respect to type, molecular weight, substitution degree etc. shall therefore always take place. For instance, for an anti-HIV antibody test the concentration of the polymer, such as dextran sulfate, is recommended by Senn *et al.* to be within 0.01-0.14% (w/w). Senn *et al.* teach that in many cases the upper limit of the polymer concentration should

be lowered down to 0.10%. At page 12, line 29 through page 13, line 2, Senn *et al.* teach a kit for the detection of a first antigen or an antibody to a second antigen. The kit is comprised of a solid support coated with the second antigen and with an antibody to the first antigen, and detecting reagents for the first antigen and for antibody to the second antigen. The kit may contain the detecting reagents in the form of an aqueous suspension optionally containing buffer components or in the form of a lyophilized or spray-dried powder.

According to MPEP 2131.02, the prior art species, polyanethole sulfonate, taught by Senn *et al.,* will anticipate the agent for inhibiting decrease in measured values in immunoassays of the instant Claims 1-8, 10-14, 16, and 19-20.

"A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. *In re Slayter*, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960).

As to recitation "0.01% to 5% (weight/volume)" of Claim 14, a specific example in the prior art which is within a claimed range anticipates the range. MPEP 2131.01.

"[W]hen, as by a recitation of ranges or otherwise, a claim covers several compositions, the claim is anticipated' if *one* of them is in the prior art." Titanium Metals Corp. v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (citing In re Petering, 301 F.2d 676, 682, 133 USPQ 275, 280 (CCPA 1962)) (emphasis in original).

Therefore, each and every element of the claims is met by the Senn *et al.* reference.

Claims 1-8, 10-13, and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by **Bloch** *et al.,* WO 90/02202, published on March 8, 1990.

Bloch *et al.,* throughout the publication, and, for example, in Claim 101, teach use of a polymeric anion selected from the group consisting of dextran sulfate, polyphosphate, polyanethole sulfonate, carboxymethyl cellulose, polyacrylic acid, sulfoethyl cellulose, and polystyrene chemically modified to contain sulfate, sulfonate, or carboxylate groups, for the reduction of interfering peroxidatic and catalatic activities in biological test samples, including blood, in a peroxidase-linked specific binding assay.

According to MPEP 2131.02, the prior art species, polyanethole sulfonate or polystyrene chemically modified to contain sulfate, sulfonate, or carboxylate groups, taught by Bloch *et al.,* will anticipate the agent for inhibiting decrease in measured values in immunoassays of the instant Claims 1-8, 10-13, and 19-20.

"A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. *In re Slayter*, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960).

Therefore, each and every element of Claims 1-8, 10-13, and 19-20 is met by the reference.

Claims 1-9 are rejected under 35 U.S.C. 102(f) because Applicant did not invent the claimed subject matter.

At page 4, lines 17-23 of the specification, Applicant admitted that the claimed agent is well-known in the art and provided a list of several commercially-available ionic surfactants including sodium polyanethole sulfonate, sodium polystyrene sulfonate:

"Examples of preferred polymers used as the agent for inhibiting decrease in measured values include *sodium polyanethole sulfonate*, *sodium polystyrene sulfonate*, sodium salt of

condensate between naphthalene sulfonic acid and formalin, sodium salt of condensates between an aromatic sulfonic acid and formalin (more concretely, DISROL (trade name, produced by Nippon Nyukazai Co., Ltd.), DEMOL (trade name, produced by Kao Corporation), POLITY PS-1900 (Lion Corporation) and POLITY N-100K (trade name, produced by Lion Corporation)." *Emphasis added*.

According to MPEP 2112, something which is old does not become patentable upon the discovery of a new property:

"[T]he discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new to the discoverer." *Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999).

If the composition is physically the same, it must have the same properties. MPEP 2112.01.

"Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

The prior art species of the instant Claim 8 will anticipate independent Claim 1 to a genus and dependent Claims 2-7, 9:

"A generic claim cannot be allowed to an applicant if the prior art discloses a species falling within the claimed genus." The species in that case will anticipate the genus. *In re Slayter*, 276 F.2d 408, 411, 125 USPQ 345, 347 (CCPA 1960). MPEP 2131.02.

Therefore, Claims 1-9 are not novel.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mutsumi** *et al.* JP 2003-149244 (IDS entered 01/12/2007) in view of **Fluka Catalog** 1999/2000, pages 1115, 1132.

Mutsumi *et al.*, as stated in the English Abstract, submitted by Applicant, teach "a method and a reagent by which antigen (or antibody) measurement is made to be possible over a wide concentration range, by making appropriate measured values obtainable even when an antigen (or antibody) is contained excessively in an immunoreaction liquid as compared with an antibody (or antigen) bonded to insoluble carrier particles, such as the latex, metallic colloid, etc., by suppressing prozone phenomena. The method uses a prozone phenomenon repressor for immunoreaction measurement composed of one, two, or more kinds of compounds selected from among sulfate- and sulfonate-based anionic surface active agents, such as alkyl sulfateester-, alkylbenzene sulfonate-, alkylnaphthalene sulfonate-,

alkyldiphenylether sulfonate-, polyoxyethylene alkyl sulfateester-, polyoxyethylene alkyl aryl sulfate-, alkane sulphonate-based, and other sulfateester- or sulfonate-based anionic surface active agents. The reagent contains the prozone phenomenon repressor for suppressing the occurrence of prozone phenomena in the course of an immunoreaction."

In Claims 8 and 13, Mutsumi *et al.* teach use of the 0.008 to 4% concentration of a prozone phenomenon repressor for immunoreaction measurement.

Mutsumi *et al.* do not teach an ionic surfactant having a molecular weight of 1000 to 100,000, said ionic surfactant being a polymer in which a hydrophobic cyclic monomer(s) having an ionic functional group(s) is(are) polymerized.

However, as evidenced by **Fluka Catalog** 1999/2000, pages 1115, 1132, the claimed ionic surfactants of the present application, such as polyanetholsulfonic acid sodium salt and poly(styrenesulfonic acid sodium salt), were well-known and commercially available at the time the invention was made.

It would have been *prima facie* obvious, at the time the invention was made, for one of ordinary skill in the art to have made and used commercially available polyanetholsulfonic acid sodium salt and poly(styrenesulfonic acid sodium salt) in a method and a reagent, taught by Mutsumi *et al.*

One of ordinary skill in the art would have been motivated to have made and used commercially available polyanetholsulfonic acid sodium salt and poly(styrenesulfonic acid sodium salt) in immunoassays, because it would be desirable to reduce the influence by interfering substances in test samples to promote the accuracy of the immunoassays.

One of ordinary skill in the art would have had a reasonable expectation of success in making and using commercially available polyanetholsulfonic acid sodium salt and poly(styrenesulfonic acid sodium salt) in immunoassays, because use of sulfate- and sulfonate-based anionic surface active agents for reducing the influence by interfering substances in test samples to promote the accuracy of immunoassays was known in the art, as taught by Mutsumi et al.

Conclusion

Claims 1-20 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GALINA YAKOVLEVA whose telephone number is (571)270-3282. The examiner can normally be reached on Monday-Friday 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Shibuya can be reached on (571)272-0806. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G. Y./
Examiner, Art Unit 1641

/Mark L. Shibuya/
Supervisory Patent Examiner, Art Unit 1641